

ART 34 AMDT

What is claimed is:

1. The use of copolymers composed of

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from 40 to 99.5% by weight of at least one ethylenically unsaturated lactam A

10 from 0.5 to 60% by weight of n-butyl acrylate (monomer B) and

10 from 0 to 50% by weight of other monomers C

15 as gas hydrate inhibitors, by using a solution or dispersion of the copolymer in solvents having a flashpoint greater than 50°C.

2. The use according to claim 1, wherein the copolymer is composed of

20 from 60 to 99% by weight of A

from 1 to 40% by weight of B and

from 0 to 39% by weight of C.

25 3. The use according to either of claims 1 and 2, wherein the proportion of the monomers C is less than 5% by weight.

4. The use according to any of claims 1 to 3, wherein the lactam is N-vinylpyrrolidone.

30 5. The use according to any of claims 1 to 4, wherein the copolymer is prepared by solution polymerization in solvents having a flashpoint greater than 50°C.

35 6. The use according to any of claims 1 to 5, wherein the copolymer has a K value of from 10 to 100, measured in 5% by weight ethanol solution at 21°C.

40 7. A process for preventing or reducing the formation of gas hydrates in liquids or gases, which comprises adding to these liquids or gases copolymers or solutions thereof according to any of claims 1 to 6 as gas hydrate inhibitors.

8. The process according to claim 7, wherein the liquids or gases are mineral oil or natural gas.

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9. A solution of copolymers which has a K value of from 10 to 45 in 5% by weight ethanol solution at 21°C, composed of  
5 from 40 to 99.5% by weight of at least one ethylenically unsaturated, cyclic lactam A  
from 0.5 to 60% by weight of monomer B  
from 0 to 50% by weight of other monomers C  
10 in solvents having a flashpoint greater than 50°C.

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